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ABSTRACT

A study of the importance of matching students' cognitive style with the teaching style of instructors was undertaken in five high school second-year French classes. Common instructional objectives and materials were used by the classes, in different schools. All students and teachers were given the Group Embedded Figures Test to determine field dependence or independence as a measure of cognitive style, and student-teacher matches and mismatches were noted. Teachers' grade expectations of their students were compared with students' rankings on standardized French tests and analyzed statistically. Results showed that field-independent teachers tend to estimate pupil competence more accurately than field-dependent teachers. It is suggested that the mismatch of student and teacher cognitive styles may create serious learning problems in the French classroom because of the nature of the learning tasks involved. (MSE)

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COGNITIVE STYLE AND IMPRESSIONS OF STUDENT ACHIEVEMENT IN SECONDARY FRENCH CLASSES

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COGNITIVE STYLE AND IMPRESSIONS OF STUDENT ACHIEVEMENT IN SECONDARY FRENCH CLASSES

Foreign language teachers have long identified pupils with different conceptual tempos, selective strategies, and cognitive styles. There is some evidence suggesting that there are differences in the methods employed by field-dependent and field independent teachers, and that these differences are in line with the personal characteristics associated with these two styles (Within, 1976). Results of the Witkin study (1976) indicated that instructors and students who are of similar cognitive style describe each other in positive terms. The recognition that there are basic dispositions of the individual toward a particular field articulation is also demonstrated by investigators in foreign language education (Hansen and Stansfield, 1982; Tuttle, Guitart, and Zampogna, 1979). Perhaps it is too simplistic to refer to foreign language teachers as essentially good or bad instructors, even if such descriptions may be justifiable. Perhaps it may be more appropriate to consider teachers as inappropriate for certain students.

Background

Witkin, Moore, Goodenough, and Cox (1977) found a relationship between selective or stylistic strategies, and interpersonal and temperamental behavior. Witkin et al. (1977) also found that teachers differ in their cognitive styles, in their perceptions of students, and in their expectations about students. It is also only in recent history that research has begun to show that teacher expectancy exerts considerable influence on student performance (Covington and Berry, 1976; Felsenthal, 1970; Goldenberg, 1969; Rosenthal and Jacobson, 1968; Saracho, 1980). Results from these studies suggest that response styles by students are a function of teacher expectations and of cognitive styles (field-dependence/field-independence).

In studies of the relationship between field independence and personality, field independent pupils and teachers have been found to be more likely to be interested in the abstract and in the theoretical (Biggs, Fitzgerald, and Atkinson, 1971). Field independent indiviuals have also been found to demonstrate a preference for solitary, non-social situations (Witkin et al., 1977). Research in the variable of field independence also suggests that this individual is analytical and impersonal, and often enters the field of mathematics, physics, chemistry, medecine, and engineering (DiStefano, 1970; Witkin et al., 1977).

Field-dependent students and teachers, on the other-hand, seem to exhibit a preference for face-to-face relationships and external social referents (McPall and Schenkein, 1970; Nevill, 1972). Field-dependent individuals frequently choose careers in the social sciences or "people" oriented vocations, including education. The "people" orientation of the field-dependent personality has also been found to conform to Reisman's (1950) other-directed personality.

Witkin et al. (1977) found that field-dependent teachers also tend to use student interactive techniques, discovery approaches, open classroom discussion, and externally defined goals. The field-independent teacher was described as preferring lectures, structured class activities, directives in giving negative evaluations and feedback, and analytical procedures.

As one examines other studies in search of the relationship between teacher cognitive style and pupil learning, it becomes extremely difficult to dismiss the importance of teacher-pupil interaction (DiStefano, 1970; Greene, 1972; Greene, 1973; Hunt, 1970; Jones and Aiello, 1973). Such research suggests that expectations about student achievement may be a function of an optimum match between the cognitive style of the teacher and the pupil.

This match of cognitive styles proved to be of vital interest in the DiStefano (1970) study in which students and teachers who were mismatched tended to view each other negatively. Witkin (1976) and Witkin et al. (1977) found that a "match" in cognitive style facilitates social interaction if there is a shared mode of communication, an atmosphere of cooperation, and similar personality characteristics.

The purpose of this study was to determine the importance of matching cognitive style of pupils to French teachers. The research question to be investigated was: is there a relationship between the cognitive style of teachers and their discrepancies in ranking matched and mismatched pupils on grade expectations and actual academic competence in a French course?

Methodology

Subjects

Five teachers (2 males and 3 females) and their students (N=155) in five French II classes formed the defined population. With the use of an assigned identification number from 1 to 155, 100 subjects (males=41 and females=59) were selected to participate in this investigation. Mean age of these students was 16 years old. The sample came from one mid-sized city and four

smaller cities in the southeast, cities in which the school systems are composed of two ethnic populations (black and white) with a small number of children of resident aliens.

Treatment

This elementary French class designated as French II was designed to promote communicative and linguistic competence, and cultural awareness of the Francophonic world. Classes met five times per week for a 50-minute period; one period a week was devoted to language laboratory practice. There were common instructional objectives used by each instructor and sanctioned by an instructional supervisor. Also, there was a common textbook and ancillary materials (filmstrips and tapes).

Procedures

In order to identify the field proclivity of the students and teachers, all five teachers and 100 pupils were administered the Group Embedded Figures Test (Oltman, Raskin, and Witkin, 1971) at the end of the first semester of French study. This instrument is based upon individual differences in performance as measured by a subject's reaction to a geometric figure, and his or her perception of part of a field as discrete or embedded in a surrounding field (Witkin et al., 1977). In other words, this instrument requires the subject to perceive and outline a simple geometric figure embedded

within a more complex figure (Hansen and Stansfield, 1982). The alpha coefficient correlation was .78 for the sample (Cronbach, 1951).

Respondents were categorized in relation to other subjects in their group; therefore, subjects were described as field-independent if the score obtained on the Embedded Figures Test was above the median for the group. Field-dependent subjects were classified in their category if the score obtained on the GEFT was below the median for his or her group. The cognitive style was matched or mismatched with the style of the classroom teacher.

Next, the investigator obtained grade expectations or how each instructor expected a student to perform in his or her French class. These rankings were compared with the standardized score rankings of a revised Baltimore County French Test, Parts I, II, and IV (1962). Discrepancy scores were computed as deviations from the standardized score rankings; that is, if teacher grade expectations deviated negatively or positively from the ranking of subjects (matched or mismatched) on the standardized French test.

Results

A 2 X 2 analysis of variance (ANOVA) design was utilized to analyze the data from this investigation with cognitive style of the instructor (field-dependent or field-independent) and whether there was a match or mismatch

to the style of the classroom teacher and the pupil as main effects. The unit of analysis was the mean deviation from the matched or mismatched group. The alpha level was set at the .01 level of significance. The summary table of the 2 X 2 analysis of variance (ANOVA) is found in Table 1.

TABLE 1

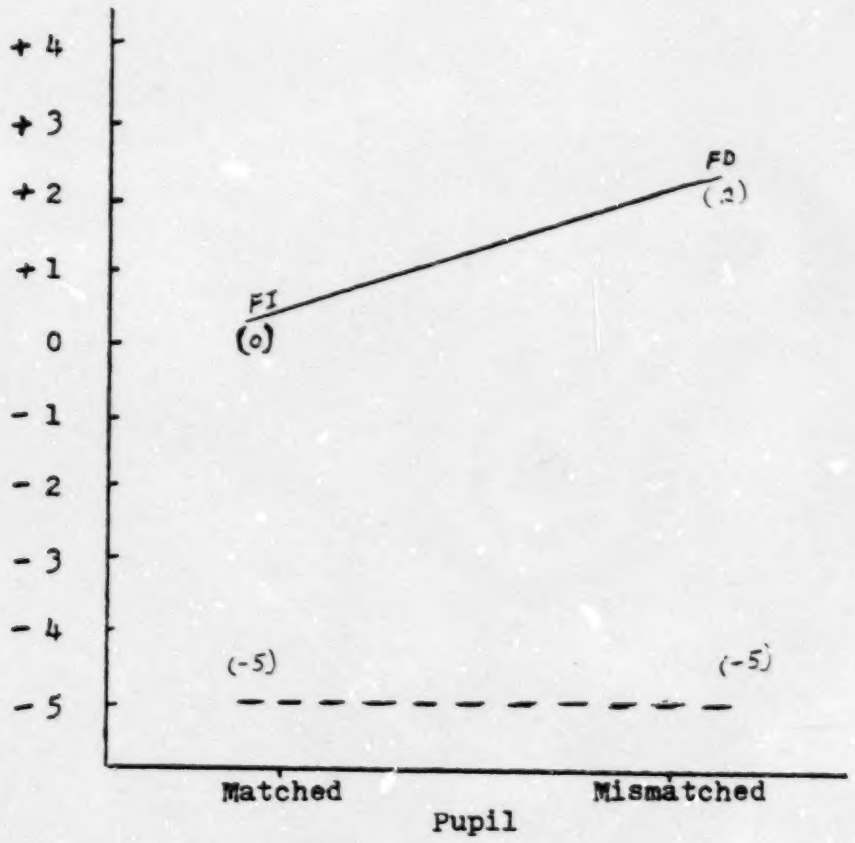
Summary Table for the Two-Way ANOVA

Source	df	SS	MS	F
Cognitive Style	1	1492.4	1492.4	9.51**
Match/Mismatch	1	1134.5	1134.5	7.23**
Interaction	1	1623.0	1623.0	10.34**
Error	96	15067.3	156.95	
Total	99			

** $p < .01$ $df(1,96) = 7.08 > x < 6.85$

The analysis revealed significant differences at the .01 level for the two main effects--cognitive style and match/mismatched choices. Also, interactive effects were significant at the .01 level; therefore, the effects of the levels of the first independent variable upon the dependent variable or scores was not the same across the levels of the second independent variable. Moreover, the presence of this interactive effect evidenced a relationship between the discrepancies in ranking matched and

mismatched pupils in regard to academic achievement, and cognitive styles of the teachers. Figure 1 illustrates graphically the nature of this interactive effect by plotting the mean deviations.



_____ Field Independent Teacher

_ _ _ _ Field Dependent Teacher

Figure 1. Ordinal interaction of discrepancy Scores

The profile of the interactive effects indicates:

1. Field-dependent French teachers tended to have no greater ability to predict academic competence in either field-independent (mismatched) or field-dependent pupils (matched).
2. Field-independent French teachers tended to expect more of the field-dependent pupil or the mismatched student.
3. Field-independent French teachers tended to have greater accuracy in predicting academic success of field-independent and field-dependent students than their field-dependent colleagues.

Discussion

The results of this study support the belief of DiStefano (1970), James (1973) and Saracho (1980) that field-independent teachers and students matched to each other view one another more positively. Saracho (1980) emphasized that the field-independent teacher has few difficulties in identifying and evaluating the outgoing field-dependent pupil. On the other hand, the field-dependent teacher may feel a degree of insecurity or perplexity when faced with the field-independent student, a student who is often analytical, abstract, and cogitative (Witkin, Dyk, Paterson, Goodenough, and Karp, 1974).

In the school setting, the field-independent teacher

may also view the field-dependent student as adept at listening and as requiring help in solving problems, developing strategies, and hypothesis testing (Witkin et al., 1977). This dependent behavior may cause field-independent teachers to have higher expectations for the field-dependent student (Saracho, 1980).

It is clear that the characteristics relevant to the teaching profession may fit the cognitive style of the field-dependent instructor; however, field-independent instructors have not proven to be any less adept at the art of instruction (Witkin et al., 1977). The problem arises; does the pupil's cognitive style interact with the teacher's cognitive style in a language classroom? This investigation found that field-independent French teachers tended to have a more accurate estimation of pupil competence than his or her field-dependent counterparts.

When one considers the position of the foreign language teacher in the school setting, it seems clear why the field-independent instructor may be better able to predict academic competence. The language teacher must disambiguate a foreign linguistic system by simplifying the grammatical machinery, interpret the cultural context, and motivate dialogue interaction. Foreign language study involves behaviors such as taxonomic paradigms of declensions and conjugations.

Moreover, other field-independent processes such as (1) task analysis; (2) verbal abstractions; (3) long term memorization; and (4) reflective problem solving also reinforce the assumption that the acquisition of a language may render the field-dependent pupil dysfunctional unless he or she is enrolled in a totally oral program.

The preceding discussion suggest that the mismatch of teacher and pupil cognitive styles may have serious consequences in the French classroom. It is known that various conceptual tempos and selective strategies exist within the classroom. It may be that greater interpersonal attraction and better learning can be fostered when both teacher and pupil share a common cognitive style. It seems, however, more practical to fit the content and information to the student's cognitive style and affective behavior. At any rate, as the area of educational psychology refines the dimensions of individual differences, it will become more evident that individuals may have programs specific to their cognitive style, and the underachiever in foreign languages will, perhaps, cease to exist.

SOURCES CONSULTED

Baltimore County French Language Committee. Baltimore County French Test. Indianapolis: Bobbs-Merrill Company, Inc., 1962.

Biggs, J. B., Fitzgerald, D., and Atkinsson, S. M. Convergent and divergent abilities in children and teachers' ratings of competence and certain classroom behaviors. British Journal of Educational Psychology, 1971, 41, 277-286.

Covington, M. V. and Beery, R. G. Self-worth and school learning. Atlanta: Holt, Rinehart and Winston, 1976.

Cronbach, L. J. Coefficient alpha and the internal structure of tests. Psychometrika, 1951, 16, 297-334.

DiStefano, J. J. Interpersonal perceptions of field independent and field dependent teachers and students (Doctoral dissertation, Cornell University, 1969). Dissertation Abstracts International, 1970, 31, 463A-464A. (University Microfilms No. 70-11, 225).

Felsenthal, H. M. Sex differences in teacher-pupil interactions and their relationship with teacher attitudes and pupil reading achievement. Dissertation Abstracts, 1970, 30, 9-A, 3781-82.

Goldenberg, I. I. Reading groups and some aspects of teacher behavior. In F. Kaplan and S. B. Sarason (Eds.) The psycho-educational clinic: papers on research studies. Boston: Department of Mental Health, Commonwealth of Massachusetts, 1969.

Greene, L. R. Effects of field independence, physical proximity and evaluative feedback on affective reactions and compliance in a dyadic interaction (Doctoral dissertation, Yale University, 1973). Dissertation Abstracts International, 1973, 34, 2284B-2285B. (University Microfilm No. 73-26, 285).

Greene, M. A. Client perception of the relationship as a function of worker-client cognitive styles (Doctoral dissertation, Columbia University, 1972). Dissertation Abstracts International, 1972, 33, 3030A-3031A. (University Microfilms No. 72-31, 213)

Hansen, J. and Stansfield, C. Student-teacher cognitive style and foreign language achievement: a preliminary study. Modern Language Journal, 1982, 66, 263-273.

Hunt, D. E. A conceptual level matching model for coordinating learner characteristics with educational approaches. Interchange, 1970, 1, 68-82.

James, C. A cognitive style approach to teacher-pupil interaction and the academic performance of black children. Unpublished master's thesis, Rutgers University, 1973.

Jones, S. and Aiello, J. Proxemic behavior of black and white 1, 3, 5 children. Journal of Personality and Social Psychology, 1973, 25, 21-27.

McPall, R. and Schenkein, D. Experimenter expectancy effects, need for achievement, and field dependence. Journal of Experimental Research in Personality, 1970, 4, 122-128.

Nevill, D. Experimental manipulation of dependency motivation and its effects on eye contact and measures of field dependency (Doctoral dissertation, University of Florida, 1971). Dissertation Abstracts International, 1972, 32, 7295B. (University Microfilms No. 72-16, 639).

Oltman, P., Raskin, E. and Witkin, H. The group embedded figures test. Palo Alto, California: Consulting Psycholcgists Press, Inc., 1971.

Reisman, D. The lonely crowd. New Haven: Yale University Press, 1950.

Rosenthal, R. and Jacobson, L. Pygmalion in the classroom. New York: Holt, Rinehart and Winston, Inc., 1968.

Saracho, O. The relationship between the teacher's cognitive sytle and their perceptions of their students' academic achievement. Educational Research Quarterly, 1980, 5, 40-49.

Tuttle, H., Guitart, J., and Zampogna, J. Effects of cultural presentations on attitudes of foreign language students. Modern Language Journal, 1979, 63, 177-182.

Witkin, H. Cognitive style in academic performance and in teacher-student relations. In S. Messick and Associates (Eds.) Individuality in learning. San Francisco: Jossy-Bass Publishers, 1976.

Witkin, H., Dyk, R., Paterson, H., Goodenough, D., and Karp, S. Psychological differentiation. Potomac, Maryland: Erlbaum, 1974.

Witkin, H., Moore, C., Goodenough, D. and Cox, P. Field-dependent and field-independent cognitive styles and their educational implications. Review of Educational Research, 1977, 47, 1-64.